REMARKS

Claims 118-137 have been added. Claims 118-126 correspond exactly to claims 1, 3, 4, 6, 8, 9, 11, 13, and 14 of U.S. Patent 5,855,583 (the '583 patent), which issued to Wang et al. on March 2, 1999. Claim 127-135 substantially correspond to claims 1, 3, 4, 6, 8, 9, 11, 13, and 14 of the '583 patent. Claims 136 and 137 depend from claims 127 and 132, respectively.

Applicant respectfully requests that an interference be declared under 37 C.F.R. §1.607 between the present application and the '583 patent. The present application, U.S. patent application serial No. 08/709,930, filed on September 9, 1996, is a continuation of U.S. patent application Serial No. 07/823,932, filed on January 21, 1992. The '583 patent issued from Application No. 755,063, filed on November 22, 1996; which was a Continuation-in-Part of Application No. 603,543, filed on February 20, 1996 (which issued as Patent No. 4,762,458), and which did not claim priority from any earlier application.[1] Therefore, applicant believes that applicant would be senior party in any interference proceedings.

Under M.P.E.P. §2307 and 37 C.F.R. §1.607, applicant requests this interference be declared between the present application and the unexpired '583 patent, and has satisfied each requirement of 37 C.F.R. §1.607 as follows:

(1) The unexpired patent is U.S. patent No. 5,855,583, which issued to Wang et al. on January 5, 1999.

(2) The Proposed Counts are as follows:

Count 1

(i) A medical robotic system, comprising:

a robotic arm;

a coupler that pivotally attaches to the arm;

an endoscopic surgical instrument that is held by said coupler; and

[1] Applicant does not admit that application Serial No. 603,543 supports the count, nor any of the claims of the '583 patent.

a controller having a handle, the controller in electrical communication with the robotic arm; and

wherein movement at the controller produces a proportional movement of the robotic arm and surgical instrument;

OR

(ii) A medical robotic system, comprising:

a manipulator arm;

an endoscopic surgical instrument movably held by the arm;

an input device having a handle, the input device in electrical communication with the arm; and

wherein movement at the input device produces a proportional movement of the arm and surgical instrument.

Count 2

(i) A method for operating a surgical robotic system for performing a surgical procedure on a patient, the method comprising:

1) providing a first articulate arm, a controller and an input device which receives input commands, the first articulate arm in electrical communication with the controller and the controller in electrical communication with the input device;

2) cutting at least one incision into the patient;

3) attaching a surgical instrument to the first articulate arm;

4) inserting said surgical instrument into the patient through the at least one incision;

5) generating input commands to move said surgical instrument in accordance with the procedure being performed

wherein said robotic arm moves said surgical instrument in accordance with the input commands; and

6) removing the surgical instrument from the patient;

OR

(ii) A method for operating a surgical robotic system for performing a surgical procedure on a patient, the method comprising:

1) providing a first articulate arm, a computer and an input device which receives input commands, the first arm in communication with the computer and the computer in communication with the input device;

2) forming at least one incision into the patient;

3) attaching a surgical instrument to the first articulate arm;

4) inserting said surgical instrument into the patient through the at least one incision; and

5) generating input commands to move said surgical instrument in accordance with the input commands.

Proposed Count 1 is a phantom count and has for its first part (i) claim 1 (the broadest system claim) of the '583 patent; and for its second part (ii) claim 127 of the present application, a claim substantially corresponding to claim 1 of the '583 patent. Proposed Count 2 is also a phantom count, and has for its first part (i) claim 9 of the '583 patent (the broadest method claim); and for its second part (ii) claim 132 of the present application, a claim substantially corresponding to claim 9 of the '583 patent. As is required under 37 C.F.R. §1.606, each Proposed Count is not narrower in scope than any claim designated to correspond to that count.

(3) It is respectfully submitted that all system claims (1-8) of the '583 patent correspond to Proposed Count 1, as claim 1 of the '583 patent corresponds exactly to part (i) of Proposed Count 1, and as claims 2-8 of the '583

patent would have been obvious in view of Proposed Count 1. All method claims (9-15) of the '583 patent correspond to Proposed Count 2, as claim 9 of the '583 patent corresponds exactly to part (i) of Proposed Count 2, and as claims 10-15 would have been obvious in light of Proposed Count 2.

(4) It is respectfully submitted that system claims 118-122, 127-131, and 136 correspond to Proposed Count 1; and that method claims 123-126, 132-135, and 137 correspond to Proposed Count 2.

(5) Support for claims 118-137 is found throughout the specification as originally filed in parent application 07/823,932. Once again, the present application (08/709,930, filed on September 9, 1996) is a continuation of the parent application, which was filed on January 21, 1992. Specifically, examples of support in the parent application are found as tabulated below.

Claim 118 (Claim 1 of the '583 Patent)	Support in Parent Application 07/823,932
A medical robotic system, comprising:	As stated on page 1, lines 2-6, the invention relates generally to teleoperator robotic systems. Page 13, lines 1-3 explain that Figs. 7 through 9 illustrate embodiments adapted for medical use.
a robotic arm;	As described on page 5, line 25-page 6, line 15, and as shown in Fig. 1, manipulators 24 have articulate robotic arms 34 supporting end effectors 40.

a coupler that pivotally attaches to the arm;	In the embodiment shown in Fig. 11 and described on page 17, lines 15-26, inner wrist 172A is pivotally coupled to forearm 174. Additional pivotal couplers are provided between forearm 174 and control linkage 188 of manipulator 142, as described on page 18, lines 17-24, and between the jaw elements 170 and wrist link 172B.
an endoscopic surgical instrument that is held by said coupler; and	Endoscopic surgical instrument end effector elements 170 are held by wrist 172 by the pivotal coupler of the jaws, and by the other pivotal couplers of linkage 188, as illustrated in Fig. 11, and as described on page 18, lines 3-26. Examples of endoscopic surgical instruments are listed on page 14, lines 21-26.
a controller having a handle, the controller in electrical communication with the robotic arm; and	Controllers 72 are electrically coupled to manipulators 24 by computer 42, as described on page 9, lines 20-28, and as shown in Fig 1.
wherein movement at the controller produces a proportional movement of the robotic arm and surgical instrument.	Proportional scaling between movement at the controller and movement of manipulator 24 and end effector 40 is described on page 4, lines 4-14, and with reference to Fig. 4 on page 10, line 19-page 11, line 28.

Claim 119 (Claim 3 of the '583 Patent)	Support in Parent Application 07/823,932
The system of claim 118 wherein said endoscopic surgical instrument is an articulable endoscopic surgical instrument.	Articulable endoscopic surgical end effectors 170 and 270 are illustrated in Figs. 11 and 14.

Claim 120 (Claim 4 of the '583 Patent)	Support in Parent Application 07/823,932
The system of claim 118 wherein the articulable surgical instrument comprises a base, a pivot linkage, and a distal end.	Page 17, lines 15-26 explain that surgical end effectors 170 include movable distal jaws attached to a proximal forearm 174 by a pivotal wrist 172. As illustrated in Fig. 11, the movable jaw elements are also attached to the outer wrist 172B by a pivot linkage.

Claim 121 (Claim 6 of the '583 Patent)	Support in Parent Application 07/823,932
The system of claim 120 wherein a movement at the controller results in corresponding movement of the distal end of the articulable surgical instrument releative to the base of the articulable surgical instrument.	Page 17, lines 15-26 describe how movement of the end section 160 of the controller effects corresponding movement of the wrist link 172A relative to the proximal forearm 174 of the articulable surgical instrument, and that controller movement also effects corresponding movement of outer wrist 172B relative to inner wrist 172A. Actuation of sensors 78 similarly results in corresponding movement of the gripper elements relative to the wrist link, as described on page 9, lines 20-25.

Claim 122 (Claim 8 of the '583 Patent)	Support in Parent Application 07/823,932
The system of claim 121 wherein the tool attached at the distal end of the articulable surgical instrument is a cauterizer.	Page 14, lines 21-26 includes electrosurgical coagulators among a list examples of endoscopic surgical end effectors for use with the invention.

Claim 123 (Claim 9 of the '583 Patent)	Support in Parent Application 07/823,932
A method for operating a surgical robotic system for performing a surgical procedure on a patient, the method comprising:	As stated on page 1, lines 2-6, the invention relates generally to teleoperator robotic systems. Page 13, lines 1-33 explain that Figs. 7 through 9 illustrate embodiments adapted for performing surgical procedures.
1) providing a first articulate arm, a controller and an input device which receives input commands, the first articulate arm in electrical communication with the controller and the controller in electrical communication with the input device;	Page 5, line 25-page 6, line 24 state that a first articulate arm 34R, a computer 42, and an input device at workstation 24 are provided, as shown in Fig. 1. The articulate arm 34 is in electrical communication with computer 42, and computer 42 is in electrical communication with the input device, as illustrated in Fig. 1.
2) cutting at least one incision into the patient;	Page 18, lines 3-8 indicate that cannula 180 is inserted into an incision through the abdominal wall and into the patient.
3) attaching a surgical instrument to the first articulate arm;	Surgical instrument end effectors 114, 170, and 270 are attached to articulate arms 34, 100, and 114, as illustrated in Figs. 7, 11, and 14, and as described on page 14, lines 3-26.
4) inserting said surgical instrument into the patient through the at least one incision;	Page 13, lines 21-27 state that the surgical instrument end effectors are inserted into the patient through the incision.

5) generating input commands to move said surgical instrument in accordance with the procedure being performed wherein said robotic arm moves said surgical instrument in accordance with the input commands; and	Page 20, line 23-page 21, line 8 describes how input commands are generated so that the manipulators move the surgical instrument end effectors according to the operator's input commands.
6) removing the surgical instrument from the patient.	Surgical instrument end effectors are inherently removed from a patient when a proceedure is complete.

Claim 124 (Claim 11 of the '583 Patent)	Support in Parent Application 07/823,932
The method of claim 123 wherein said surgical instrument is a grasper.	Surgical end effectors 40, 170, and 270 may comprise graspers, as illustrated in Figs. 1, 11, and 14, and as described on page 9, lines 14-70.

Claim 125 (Claim 13 of the '583 Patent)	Support in Parent Application 07/823,932
The method of claim 123 wherein the surgical instrument is a cauterizer.	Surgical end effectors 170 may comprise electrosurgical coagulators, as stated on page 14, lines 21-26.

Claim 126 (Claim 14 of the '583 Patent)	Support in Parent Application 07/823,932
The method of claim 123 wherein the surgical instrument is a cutting blade.	Surgical end effectors 170 may comprise blades, as stated on page 14, lines 22-26.

Claim 127	Support in Parent Application 07/823,932
A medical robotic system, comprising:	As stated on page 1, lines 2-6, the invention relates generally to teleoperator robotic systems. Page 13, lines 1-33 explain that Figs. 7 through 9 illustrate embodiments adapted for medical use.
a manipulator arm;	As described on page 5, line 25-page 6, line 15, manipulators 24 have robotic arms 34 supporting end effectors 40.
an endoscopic surgical instrument movably held by the arm; and	Endoscopic surgical instrument end effectors are held by wrist 172 and the other pivotal couplers of linkage 188, as illustrated in Fig. 11, and as described on page 18, lines 3-13. Examples of endoscopic surgical instruments are listed on page 14, lines 21-26.
an input device having a handle, the input device in electrical communication with the arm; and	Controllers 72 are electrically coupled to manipulators 24 by computer 42, as described on page 9, lines 20-28, and as shown in Fig 1.
wherein movement at the input device produces a proportional movement of the arm and surgical instrument.	Proportional scaling between movement at the controller and movement of manipulator 24 and end effector 40 is described on page 4, lines 4-14, and with reference to Fig. 4 on page 10, line 19-page 11, line 28.

Claim 128	Support in Parent Application 07/823,932
The system of claim 127, wherein said endoscopic surgical instrument is an articulable endoscopic surgical instrument.	Articulable endoscopic surgical end effectors 170 and 270 are illustrated in Figs. 11 and 14.

Claim 129	Support in Parent Application 07/823,932
The system of claim 128, wherein the articulable surgical instrument comprises a forearm, a wrist, and an end effector.	Page 17, lines 15-26 explain that surgical end effectors 170 include movable distal jaws attached to a proximal forearm 174 by a pivotal wrist 172. As illustrated in Fig. 11, the pair of movable jaws is also attached to the wrist by a pivot.

Claim 130	Support in Parent Application 07/823,932
The system of claim 129, wherein a movement at the input device results in corresponding movement of the end effector relative to the forearm of the articulable surgical instrument.	Page 17, lines 22-26 describe how movement of the end section 160 of the controller effects corresponding movement of the wrist link 172A relative to the proximal forearm 174 of the articulable surgical instrument. Actuation of sensors 78 similarly results in corresponding movement of the gripper elements relative to the wrist link, as described on page 9, lines 20-25.

Claim 131	Support in Parent Application 07/823,932
The system of claim 130, wherein the articulatable surgical instrument comprises an electrosurgical coagulator.	Page 14, lines 21-26 includes electrosurgical coagulators among a list examples of endoscopic surgical end effectors for use with the invention.

Claim 132	Support in Parent Application 07/823,932
A method for operating a surgical robotic system for performing a surgical procedure on a patient, the method comprising:	As stated on page 1, lines 2-6, the invention relates generally to teleoperator robotic systems. Page 13, lines 1-33 explain that Figs. 7 through 9 illustrate embodiments adapted for performing surgical procedures.
1) providing a first articulate arm, a computer and an input device which receives input commands, the first arm in communication with the computer and the computer in communication with the input device;	Page 5, line 25-page 6, line 24 state that a first articulate arm 34R, a computer 42, and an input device at workstation 24 are provided. The articulate arm 34 is in electrical communication with computer 42, and computer 42 is in electrical communication with the input device, as illustrated in Fig. 1.
2) forming at least one incision into the patient;	Page 18, lines 3-8 indicate that cannula 180 is inserted into an incision through the abdominal wall and into the patient.

3) attaching a surgical instrument to the first articulate arm;	Surgical instrument end effectors 114, 170, and 270 are attached to articulate arms 34, 100, and 114, as illustrated in Figs. 7, 11, and 14, and as described on page 14, lines 3-26.
4) inserting said surgical instrument into the patient through the at least one incision; and	Page 13, lines 21-27 state that the surgical instrument end effectors are inserted into the patient through the incision.
5) generating input commands to move said surgical instrument in accordance with the input commands.	Page 20, line 23-page 21, line 8 describes how input commands are generated so that the manipulators move the surgical instrument end effectors according to the operator's input commands.

Claim 133	Support in Parent Application 07/823,932
The method of claim 132, wherein said surgical instrument is a grasper.	Surgical end effectors 40, 170, and 270 may comprise graspers, as illustrated in Figs. 1, 11, and 14, and as described on page 9, lines 14-70.

Claim 134	Support in Parent Application 07/823,932
The method of claim 132, wherein the surgical instrument is an electrosurgical coagulator.	Surgical end effectors 170 may comprise electrosurgical coagulators, as stated on page 14, lines 21-26.

Claim 135	Support in Parent Application 07/823,932
The method of claim 132, wherein the surgical instrument is a blade.	Surgical end effectors 170 may comprise blades, as stated on page 14, lines 22-26.

Claim 136	Support in Parent Application 07/823,932
The system of claim 127, wherein the proportional movement comprises pivotal movement about an incision point along a shaft coupling the surgical instrument to the arm, and wherein the proportional movement of the surgical instrument as shown in a display at the input device is in a direction corresponding to the movement at the input device.	Page 18, lines 3-8 describe pivotal movement about pivot point 176 at an incision, as shown in Fig. 11. Corresponding direction of proportional movement between the displayed end effector 40 and input device 78 is described with reference to Fig. 4 on page 11, lines 6-28.

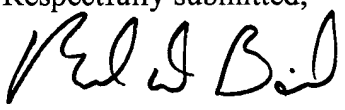
Claim 137	Support in Parent Application 07/823,932
The method of claim 132, wherein the input commands indicate a direction of movement relative to a display, and further comprising moving the endoscopic surgical instrument in the direction of movement by pivoting a shaft about the at least one incision in response to the input commands.	Page 18, lines 3-8 describe pivotal movement about pivot point 176 at an incision, as shown in Fig. 11. Corresponding direction of proportional movement between the displayed end effector 40 and input device 78 is described with reference to Fig. 4 on page 11, lines 6-28.

(6) The requirements of 35 U.S.C. §135(b) are met because the '583 patent was issued on January 5, 1999, which is less than one year from the filing date of this preliminary amendment (June 3, 1999) which adds claims 118-137 to the above-referenced application

CONCLUSION

In view of the above, applicant believes that no new matter has been introduced. Applicant respectfully requests that the Examiner declare an interference with the '583 patent, and furthermore, requests that the examination of the present application be conducted with special dispatch per 37 C.F.R. §1.607(b).

Respectfully submitted,



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